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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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MEETINGS OF SOCIETIES.

The South Durham and North Yorkshire V.M.A. has just decided to discontinue its meetings until the war is over. Probably this Society had at least as good reason for the step as any other in England, and certainly it had better reason than most; for the war has affected veterinary conditions more seriously in its district than in most other parts of the country.

So long as meetings can be got together, they may well be held. Necessarily the attendances will be small; and it may often be impossible to provide a set paper for discussion. But whenever even three or four members of the same profession meet there is never lack of material for discussion. Often some subject of professional interest presents itself; always there is the everyday experience of those present to fall back upon; and a party of veterinary surgeons can always spend a profitable hour or two in discussing each other's difficult cases. Beyond this there is another benefit which should be emphasised—the maintenance of that intercourse between individual members which is essential to the solidarity of the profession. Our Societies do so much to bring and to keep us together that every effort should be made to keep them going. Their activities will inevitably be crippled while the war lasts, but they need not be suspended altogether.

THE PREVENTION OF CONTAGIOUS ABORTION.

The discussion of this subject by the Royal Counties V.M.A. at their recent meeting (p. 263) and especially the report by Mr. Verney upon which it was based, is worthy the attention of country practitoners. The report forms another link in the accumulating chain of evidence of the value of the Board of Agriculture's methods of immunisation against epizootic abortion. It would be premature to regard the question as settled. It is just possible that the well-known tendency of the disease to "wear itself out" may have had some influence upon the returns; but the controls do not suggest that such influence was at all great. What the Oxfordshire results, following upon those previously obtained in Cornwall, undoubtedly do suggest, is that it is now in our power to control epizootic abortion; but further field experimentation is necessary for certainty. This is already being commenced in Berkshire, and might well be undertaken in every seriously infected county.

When this field immunisation was commenced, it was largely experimental; but it seems now to be approaching the end of this stage. Practitioners can recommend their clients to take it up—not, it is true, with absolute certainty, but with the strongest hope that it will be successful.

ON THE ACETYLENE GAS TREATMENT IN RINGWORM, SARCOPTIC, SYMBIOTIC AND DERMATO-DECTIC MANGES.

Any veterinary officer who serves with a Brigade finds in a few days that the bane of his patience lies in his skin disease lines. Therefore, one immediately endeavours to find an effective treatment for skin diseases, which come under class 9 in the nomenclature of the A.V.C.

There seems to be some controversy as to the causative agent of Canadian ringworm, and I am surprised that any V.S. should argue that this disease is not caused by the Tinea tonsurans, also that the Favus tinea never plays any part in true Canadian ringworm. But when one comes to the treatment of this disease, then does the Veterinary profession differ greatly, and the War Office aptly describes the situation in a circular where it enumerates a fairly long list of drugs, and states, ". . . all have their faithful adherents, and would appear equally efficacious." Now, my experience of what may be described as the Classical drugs used in ringworm, is that the result of all of them can be described in the one word "tedious."

I find a very simple, cheap and quick treatment can be carried out, and the parasites of all the above diseases killed in a minute to a minute and a half.

My *modus operandi* in ringworm runs thus:—

(*a*) The affected area is clipped.

(*b*) The clipped site is well washed in warm water, strong with common washing soda, soap is applied with a nail brush.

(*c*) The site is again well damped.

(*d*) Powdered Calcium carbide is applied to the damped site and allowed to effervesce for a minute to a minute and a half. This is conveniently applied with a pepper-box, with holes in the lid enlarged. After that period it is hosed off.

(*e*) The ringworm spot is now clean, and the ringworm parasite dead. Ink is squirted over the bald spot; this will hasten the growth of hair.

It is wonderful how quietly horses will stand when only small patches are under treatment. When the area is so large that it cannot be treated under the powder treatment, I find a good wash is made by putting one ounce of Jeyes' Fluid in a bucket of water, and two ounces of Calcium carbide as well. While the acetylene is bubbling through wash well with this mixture. I find large areas can be treated, but this requires carrying out daily for a week before a perfect result can be obtained.

A case of Sarcoptic mange in an Airdale bitch of mine I cured by placing her in a bath on the floor of which was a thick layer of Calcium carbide; the

bitch was placed in the bath, then water was poured in till the animal was submerged, the animal being kept in for five minutes. After four daily baths, every mange mite was dead. Ink was squirted on the bald spots, and hair had started to grow within a week.

We all know the Symbiotic mange commonly found on horses' legs. This can easily be cured in four to six days in the following manner. A long wooden stable bucket has its bottom well covered with powdered Calcium carbide, the horse's leg is then placed in, water is poured in until the affected part is submerged; if the horse can be persuaded to keep its leg in for at least five minutes, and this operation be repeated for five or six days running, all mites are dead, and the case is cured.

This treatment has one great advantage: it abolishes the necessity of Ringworm Lines. The average Ringworm Lines of an Artillery Brigade falls between 20 and 50 cases. If a V.O. starts with a Ringworm Line of say 24 cases he is entitled to eight men to do duty on those lines. Four men will disappear at least once a day to draw forage for the horses. Another three men will disappear three times a day to draw rations from the cookhouse for the sick line attendants. This leaves one man who can devote the whole of his time to clipping, dressing, and general cleaning up of the lines.

One soon ceases to wonder why the treatment of ringworm is liable to become tedious.

One is always loth to argue against segregation in the treatment of skin diseases from a hygienic point of view, but under working conditions this policy is seldom advisable. I am convinced that if prophylactic measures were increased in grooming, clipping, and the thorough disinfecting of rugs, grooming kit, etc., and the acetylene gas treatment adopted as well, this epidemic of skin diseases would be stamped out within a month.

RICHD. STOKOE, Lieut. A.V.C.

ABSTRACTS FROM FOREIGN JOURNALS.

PHOSPHORUS METABOLISM IN LAMBS.

(1) There are marked differences in the percentages of the different forms of phosphorus occurring in lucerne hay, maize, and linseed meal, and in the ratio of phosphorus to protein in these feeds. A large part of the phosphorus of lucerne hay consists of the acid-soluble inorganic form; the phosphorus of maize is equally divided between acid-insoluble and acid-soluble, the soluble being largely organic; and the phosphorus of linseed meal is largely in the acid-insoluble form, the soluble being about equally divided between inorganic and organic phosphorus.

(2) Upon a ration of lucerne hay, maize, and linseed meal, lambs excrete in the urine only 0.2 to 0.5 of 1% of the total phosphorus ingested.

(3) The forms of phosphorus excreted in the fæces of lambs show that the forms of phosphorus in the feeds consumed undergo marked qualitative and quantitative changes during the processes of digestion and metabolism. A large proportion of the acid-insoluble phosphorus of the feeds is converted into acid-soluble phosphorus, and a large part of the soluble organic phosphorous is also changed into acid-soluble inorganic phosphorus. Therefore, there is relatively only a small percentage of acid-insoluble phosphorus and a relatively large percentage of acid-soluble inorganic phosphorus in the fæces.

(4) The results of this metabolism experiment of 217 days duration, indicate that the phosphorus requirements for the normal growth and fattening of lambs does not exceed three grammes per day per 100 lb. live weight.

(5) There is no evidence of correlation between the amounts of phosphorus retained in the body on the one hand, and the amounts of phosphorus ingested, the amounts of protein ingested, or the body weights of lambs on the other hand.

(6) Variations in the quantity of digestible protein consumed from 1.56 to 3.19 lb. per 1000 lb. of live weight per day by lambs do not influence significantly the forms of phosphorus in the fæces, the total phosphorus in the urine, or the total phosphorus stored in the animal body, expressed in percentage of the total phosphorus ingested.—*Jour. Agric. Research.*

JAVA BEANS.

Phaseolus lunatus is the origin of many different kinds of tropical beans, some of which are edible while others are dangerous. The poison is Prussic acid, and although the production of this compound in seeds from cyanogenetic glucosides has been carefully investigated, our botanical knowledge of the subject is not yet sufficiently complete to allow of the statement that there is a definite coincidence between the presence of poison and colour, nor are the chemical facts sufficient to show whether the glucoside may not occur without the ferment in some cases and *vice versa*. In spite of certain observations to the contrary, it is not considered likely that the soil has any fundamental influence upon the poison content or colour of the beans. The principal influence is probably artificial selection. Up to the present it is possible to state definitely two things: (*a*) that the dark purple or black bean (the Java bean) is dangerously poisonous, and (*b*) that the creamy white bean (Lima) is perfectly wholesome. Guinard's test for HCN is:—Filter paper moistened with 1% picric acid and dried, then moistened with 10% sodium carbonate and dried, is sensitive for several months.

A strip suspended in a test tube containing 0.02 to 0.05 milligramme HCN becomes orange red in twelve to twenty-four hours.—(*W.I. Bulletin*).

F. E. P.

[The initial experiments on this question were started by the writer in 1909].

OBSERVATIONS UPON BOVINE ANTHRAX IN HOLLAND.

Vroemen has made some interesting observations upon bovine anthrax in Holland, which are summarised as follows.

The disease may be observed at all seasons; and the author has seen as much of it in those localities which have been constantly irrigated as in dry ones.

With regard to the age incidence, he finds that animals from one to three years old, and in good condition, are the most frequently affected. He attaches great importance to infected forage as a cause of infection, and above all to hay, grass, and rye and oat straw. Under ordinary conditions, he attaches less importance to water. But it is not rare to have sporadic cases of anthrax, even where the animals are kept in the stall and all fed with the same forage.

As regards the clinical symptoms, the author states that, according to the reports of owners, anthrax often manifests itself as a form of indigestion, and it is probable that, in districts where anthrax is prevalent, many cases that are considered to be simple indigestion are really cases of anthrax which recover spontaneously. The owners also report that sometimes animals have shown symptoms of violent indigestion from which they have recovered spontaneously, and, two or three weeks later, have shown similar symptoms terminating fatally, and anthrax proved to be the cause of the latter.

An accurate clinical examination enables anthrax to be differentiated from ordinary indigestion. In anthrax the temperature rises to 104° F. and more; the pulse is small, and counts from 84 to 120; the respirations are frequent; the appetite and thirst diminish; rumination ceases; the milk secretion disappears; and muscular tremors, groaning, and grinding of the teeth are observed. In the more severe cases marked weakness of the hind part of the body is seen. The evolution of the disease varies; in acute cases death occurs after a few hours, but more frequently it takes place after one, two, or three days. In some animals the author has seen the disappearance of the symptoms, with a recurrence after a few days, again followed by recovery.

The author remarks that, from the point of view of clinical examination, the microscopic examination of the blood has no importance. When the bacilli appear in the peripheral circulation, the case is already so far advanced that all treatment is useless.

As curative treatment, apart from serum, the author recommends large doses of turpentine, viz.: 100 to 150 grammes (= about 3½ to 5 oz.) repeated six hours later. He also agrees with Swiss veterinarians in advising the internal administration of creolin.—(*La Clinica Veterinaria*). W. R. C.

Practically all kinds of live stock can swim if hard pressed. Highland cattle in particular appear to be equal to any climatic emergencies, and their hardiness and open-air life have made the breed practically free from tuberculosis. The Island of Bernera is separated from the Lewis by Loch Roag. The grazings of the stock in Bernera are situated in the Lewis. Early in June the Bernera cattle are gathered together, and they swim to the Lewis shore. Then they make for their grazings on the moor and rough land. When the time comes for their return to their island the cattle of their own accord swim back. They very often prefer to accomplish the journey at high tide rather than at low water, when their passage could be more easily accomplished. —*Dundee Advertiser.*

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At a meeting of the Board of Examiners, held in London on December 10th, 1915, for the Written, and on December 16th for the Oral and Practical Examinations, the following gentlemen passed their Third Examination;—

Mr. P. W. Bloye	Mr. R. B. Nelder
E. C. Bowes	S. R. Rippon †
J. S. Garewal *	

The following passed their Second Examination;

Mr. C. S. Conder	Mr. S. H. Pettifer
H. Cooper *	

The following passed their First Examination;

Mr. L. N. Devenish	Mr. T. Knowles
C. H. P. King	T. R. Thomas

EXAMINATIONS IN GLASGOW.

The following Students were successful in the Examinations at Glasgow, on 10th inst. (Written), and 15th inst. (Oral):—

The following passed their Final Examination:

Mr. Arch. W. Campbell *	Mr. Neil A. M. Macewan
Thomas H. Timoney	Henry J. Hughes

The following passed his Third Examination:

Mr. David E. Orr

The following passed his Second Examination:

Mr. Isaac McCaulay

The following passed his First Examination:

Mr. William U. Main

There were present as ex-officio members: the College Staff and Mr. Alex. Russell, Secretary; also Mr. F. W. Garnett, J.P., F.R.C.V.S., Windermere, as representing the Royal College of Veterinary Surgeons.

EXAMINATIONS IN DUBLIN.

The following Students were successful in the recent Examinations at the R.C.V.I., Dublin.

The following passed their Final Examination:

Mr. F. J. Dunne	Mr. J. Mullaney
W. A. J. Flanagan	T. O'Connor
J. W. Hayes	T. F. O'Connor
T. J. Kenny	C. O'Driscoll
Ml. McCartin	

The following passed their Third Examination:

Mr. T. C. Hall	Mr. D. Mahony *
M. Farrelly	Wm. Reidy

The following passed their Second Examination:

Mr. W. E. Barry	Mr. W. Honigan
P. J. Cooney	A. J. Kelly
Ml. Donohoe	G. P. Kennedy
W. F. Fennelly	J. P. A. Morris
J. Heffernan	

The following passed their First Examination;

Mr. R. J. Condy	Mr. Geo. West.
M. J. Kennedy	L. R. Swifte
Ml. O'Connor	Wm. White

Marked thus † passed with First Class Honours.
Marked thus * passed with Second Class Honours.

THE CENTRAL VETERINARY SOCIETY.

(National V.M.A.—Southern Branch).

A General Meeting of the Society was held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., on Thursday evening, December 2nd, Mr. W. R. Davis, President, in the chair.

The following Fellows signed the attendance book:—Messrs. N. Almond, F. W. Chamberlain, G. S. Heatley, Herbert King, W. S. King, G. H. Livesey, J. F. Macdonald, J. W. McIntosh, W. Perryman, R. A. Philp, F. G. Samson, W. N. Thompson, Sidney Villar, F. W. Willett, J. Willett, and Hugh A. MacCormack, Hon. Sec. Visitors:—Messrs. A. H. Archer and Bowhill.

Minutes. On the motion of Mr. Samson, seconded by Mr. MacIntosh, the minutes of the last meeting were taken as read and confirmed.

Correspondence. The Hon. Sec. announced that letters regretting inability to attend had been received from Messrs. E. L. Stroud and P. C. Woolston.

Anglo-Franco-Belgian Veterinary Relief Fund, British Committee.

The Hon. Sec. read the following circular letter:—

10 Red Lion Square,
London, W.C.

Dear Sir,—On behalf of the British Committee we beg to bring to your notice the claims of the Anglo-Franco-Belgian Veterinary Relief Fund, which has been started by the Veterinary Profession in France.

The Fund is being raised for the following reasons:—

Almost without exception the Veterinary Surgeons who were in practice in Belgium and in the parts of France now occupied by the invaders, have lost all their possessions: their home has gone; their goods and chattels; their practice. Some of them are in immediate need of the necessaries of life. All of them will require some assistance, when the war is over, to enable them to settle down again and earn their living in the now devastated provinces, or elsewhere.

The Fund is intended not only to relieve the present wants of any French or Belgian Veterinary Surgeons who are thus suffering from the effects of the war, but more especially to provide a sum of money to be used at the close of the war for the purpose of repatriating these unfortunate members of our profession, and their families, in the districts out of which they had been driven.

The Fund is to be administered by a representative Committee whose head-quarters are in Paris, and on which the profession in this country is represented by the following members:—

Sir John M'Fadyean (Président d'Honneur).
Jno. A. W. Dollar, M.R.C.V.S.
F. T. G. Hobday, F.R.C.V.S.
Brig.-Gen. John Moore, C.B., F.R.C.V.S.
Sir Stewart Stockman, M.R.C.V.S.

We earnestly call the attention of the Veterinary Profession in this country to the needs of their professional brethren and allies upon whom the misfortunes of war have directly fallen, and hope that a generous response will be made to this appeal for funds. The British Committee ask that all Veterinary Societies and Associations should consider the claims which the Fund has on the sympathy of the profession, and that they will vote as substantial a grant as possible, and invite their members and others to subscribe.

All remittances should be made payable to the "Veterinary Relief Fund," and should be sent to the above address.

We are, yours very truly,

Frank W. Garnett, Chairman.
Jno. A. W. Dollar, T. Salusbury Price, } Hon. Treasrs.
Stewart Stockman, Fred Bullock, } Hon. Secs.

On the motion of Mr. Livesey, seconded by Mr. Willett, the letter was referred to the Council for consideration and report.

Ringworm and Mange, and their treatment.

F. W. Chamberlain, M.R.C.V.S., Wimbledon.

Mr. Chairman and Gentlemen,—We are concerned to-night with the discussion of Ringworm and Mange and their treatment. Both diseases are very prevalent at the present time among the horses in the many army units scattered through the country, much of the trouble having been imported and spread by remounts.

So many civilian veterinary surgeons are acting as veterinary officers i/c of brigades of Artillery and similar bodies of horses just now, and are experiencing trouble with the diseases in question, that the subject should be one of general interest.

I have undertaken the responsibility of opening the discussion, and hope to indicate a few points that will admit of exchange of opinions among us. Mark Twain described a placard in a mining-camp saloon:—"Don't shoot the pianist; he's doing his best!" Please extend to me the same consideration.

With your permission I will open on the subject of mange. While recognising the fact that we are particularly to focus our attention on the subject of treatment, it seems to me that certain matters—such as the habits of the parasites, must be introduced before we can logically enlarge on our methods of annihilating them. There are three groups of mange-mites:—(i) the Psoroptes, causing Psoroptic mange; (ii) the Sarcoptes, involving Sarcoptic mange; (iii) the Symbiotes, which confine their attentions to the legs, causing "itchy-legs," or "leg mange." This symbiotic group does not interest us to-night, and I expect we shall dismiss them summarily.

Psoroptic Mange chiefly invades those parts of the body endowed with "horse-hair," namely, the mane and tail, from which they may spread to the space between the branches of the lower-jaw to the breast and thighs. The punctures of these parasites on the skin give rise to an eruption of small pimples which at first are of the nature of blisters. When these blisters burst, or are broken by friction on the part of the animal, a sero-purulent discharge exudes, which keeps the area in a moist condition. Of these two forms of body-mange the psoroptic is essentially the moist form. The parasites live on the epidermis and under the crusts formed by the drying up of the exudate from the pimples and the epidermal dandruff. The itching in both this and the sarcoptic form is attributed to the irritating saliva which the insects deposit in the skin while obtaining serum for their food.

Sarcoptic Mange generally, perhaps, begins on or near the withers and spreads over neck and trunk. In point of fact, however, position of the eruption is not much good as a guide. Moreover, psoroptic and sarcoptic mange are occasionally co-existent on the same animal.

The sarcoptes do not confine their attacks to the outer layers of the epidermis. Such enterprising females as are pregnant penetrate the epidermis and burrow down

and away from the point of entrance for a distance of say half-an-inch, forming a tunnel or gallery in which she lays her eggs *en route*. Consequently, by the time a pimple forms at the inoculated spot the militant female has left it, and cannot be found when search is made for her in skin-scrapings from the part.

As is easily understood, psoroptic mange is always amenable to correct treatment, the parasites being always accessible on the surface of the skin. *Per contra*, sarcoptic mange at times baffles all efforts.

Apropos the vitality of the parasites, it has been estimated by authorities on parasitology that psoroptes may live, under favourable circumstances, as long as two months when removed from their host: sarcoptes about one month. Further, it has been affirmed that the period required for the eggs of the mange acari to become hatched varies according to the temperature, within reasonable limits, from two to ten days.

Transmissibility. I certainly consider that this question should be descussed here. In the event of mange being very prevalent in, say, the horses of a brigade, the question would inevitably arise from outside:—"Are the dressers in any danger of infection?" Now, I have heard members of our profession assert precisely opposite opinions on this point in most impressive and dogmatic fashion. I think this should be an interesting item for our consideration.

"Itch," or sarcoptic scabies of man seems almost identical with equine sarcoptic mange, though the parasite is not identical—at any rate in size.

I cannot remember ever seeing an instance of transmission from the dog and cat: but I vividly recollect seeing a unilateral case in a horse ridden by a "first whip" in the hunting field, caused by his bringing home in his saddle straps the "mask" of a mangy fox the hounds had killed.

Treatment.

The first essential, having regard to the Parasitic Mange Order, is to report the case to the local authority *vid* the police. Army horses, however, are exempted. In a big congregation of horses the next consideration is isolation and segregation. If it be winter, the clipping machine will now be required. It is as well to clip all horses on the same piece of ground, and to burn the severed hair after. The clippers should be well disinfected after each horse is clipped, by immersing the blades in paraffin, and working the handles while the blades are so submerged for about one minute.

Winter or summer, I think the next step is to thoroughly singe the animal. The lamp is probably a more important factor in the treatment of mange than is generally recognised. The coagulation of the albumen of such eggs as are superficially placed is likely to be effected by the flame to an extent sufficient to render most of them sterile. I then have the animals washed.

I think it is understood that there is a right and a wrong way to wash a horse on these occasions. It is well to begin at the face and head, and work backwards, as in any skin-irritation due to living parasites it is essential that no "islands of refuge," such as the eyelids and ears afford should be left unassailed. If the washing begins at the head the parasites are forced backwards and are effectually brought into the area that will unquestionably be most thoroughly dressed. The mane and tail, too, require particular attention, as there is always a quantity of scurf in these regions to afford a stronghold for the invader.

To summarise then:—Clip, singe, wash.

I would prohibit the use of rugs altogether, and forbid all attemps at grooming. It is, of course, a *sine qua non*, if one prohibits the use of rugs, that the animals be warmly housed. And now the animal requires alternate dressings and washings.

Skin dressings. I venture to think that it is the greatest possible mistake to order continued daily infriction of whatever remedy is selected. I fail to see what useful object is to be attained thereby.

In the somewhat parallel case of pediculosis we are in the habit of applying one or two daily dressings to dispose of adult lice, and then allowing an interval for the "nits" to hatch out. Similarly, in psoroptic mange, two or three proper dressings should, I imagine, suffice to destroy the mature acari. I then prefer to wash the animal and allow an interval of three days before resuming dressings.

In sarcoptic mange the males, unimpregnated females and larvæ are on the surface of the skin. Three properly applied dressings should suffice for the former two. A short interval would allow the larvæ on the skin to develop; and the eggs in the channels the while are undergoing metamorphosis to the larval stage, and then gradually emerge—like the animals from the Ark!

My rooted objection to continued daily dressings is this:—All mange dressings are irritant, some more than others, of course, and their too enthusiastic application causes dermatitis and exfoliation most difficult to control. I have seen horses "peel" in most alarming fashion, making the remedy almost as bad as the disease; and for my own part I have long since discontinued the practice.

Of mange dressings it may be said:—"Their name is legion." They range through preparations of Mercury, Phenol, Benzine, Ichthyol, Nicotine, Kerosene, Turpentine, Sulphur, Coal-tar preparations, and proprietary concoctions, to that truly domestic prescription—Gas-water.

Probably the selection of the remedy is often of less importance than the mode of its application. One thorough conscientiously applied dressing will prove more effective than any number of partial, incomplete, and "skimpy" applications which leave certain diseased parts untouched.

In my student days I remember a remark from one of the professors, that savoured of the wisdom of the oracle:—"There is a fashion in medicines as in ladies' hats." I think that dictum might apply particularly to mange dressings. We vacillate from one to another, and all the time there is nothing better than the old combination—Sulphur, with oil as a vehicle. Sulphur has been used as a skin-dressing from time immemorial, being known to the ancients as a specific for "itch" in man and mange in animals. The mange-mite cannot live in its presence, or in that of Sulphuretted hydrogen or Sulphurous acid, both of which are developed when Sulphur is brought into contact with the skin. It is one of the few specifics in veterinary medicine, and cases of mange that yield to any treatment at all will yield to the combination of sulphur and oil: the customary addition of an alkali is an improvement in that it tends to dissolve the dandruff or epidermal scales.

I do not propose to discuss the necessary disinfection of rugs, utensils and stabling.

I have occupied so much time in my remarks on mange that I propose to deal very briefly with the subject of ringworm.

Ringworm.

I had always personally regarded this disease as being distinctly rare in the horse, and ordinarily I think it is. Lately, however, we have seen an inordinate quantity of it among remounts. The cause is not far to seek. These remounts are purchased in huge quantities in America and Canada: they travel sometimes immense distances by rail (I have known them travel 3000 miles in this way: they are detrained at intervals *en route*, exercised, watered and fed); they are detrained in depôts adjacent to ports of embarkation, kept there a variable time in corrals, and then undergo their adven-

tuous journey across the Atlantic. In this way, perhaps, they have not had a brush on them for a good three months, and all the time dirt is accumulating. Nothing provokes the appearance of most forms of parasitic skin disease more than this factor. As regards its spread the herding of the animals in coralls and on shipboard affords every facility.

The lesions of ringworm commence with the formation of a small pimple, and gradually enlarge in circular fashion until the typical rounded patch associated with the "Trychophyton tonsurans" is produced: the lesions varying when fully formed from the size of a shilling to to that of a florin. Irritation is not at all marked.

Two remarkable things about the parasitic fungus are that while the eruption spreads centrifugally from the pimple stage until it attains the size of a florin, it never exceeds that dimension: and secondly that it undergoes spontaneous cure. We see this annually in ringworm of calves. The same things obtains in the horse. A given ringworm lesion will heal spontaneously in 40–50 days. Meanwhile, however, any advantage from this commendable resolution is generally neutralized by infection of other parts by transmission of spores. Hence the need of remedies to destroy the vitality of the fungus.

Treatment. Segregation of affected animals is desirable and also that of animals affording room for doubt. It is sometimes impossible to be positive till a horse is clipped. I am, personally, in the habit of clipping, singeing and washing as discussed under mange: of strictly prohibiting use of rugs or body-brushes. In ringworm the main difficulty often lies in getting rid of the horny scurf that surmounts the lesion. My practice is to apply Liquor potassae twice daily for three or four days with a suitable brush (a one-inch painter's fitch is a capital tool for the purpose). Subsequently I apply Liquor iodi in preference to the tincture. Cases invariably yield to treatment, but rarely under twenty-one days and often longer. I have on occasion used red Biniodide of mercury "blister" (1-8), and regard it as quite effective. Ringworm in the horse seems quite amenable to treatment, but involves more time than I formerly imagined.

I have had one or two dressers infected about the arms, and think it distinctly a good idea to advise them *not* to roll up their shirt sleeves before setting to work to apply a dressing. The sleeves guard the arm from infection.

Discussion.

The President thought the members would agree that Mr. Chamberlain had treated the subject very succinctly, and given a practical essay on the two diseases with which he dealt, from the point of view both of their incidence and treatment. He could confirm Mr. Chamberlain's statement that it was not uncommon for mange to be transmitted to man. Some years ago, when he was in Edinburgh, he was the first to describe the occurrence of sarcoptic mange in cattle, a fact which up to then had been denied by the authorities. He sent specimens of it to Professor Raillet in Paris, who informed him that it was distinctly sarcoptic mange. In that case almost every one of the people who milked the cows had their arms affected, and one of the men said to him: "I wish when you are sending something up for the cattle you would send something up as well for us to dress ourselves with."

Mr. Chamberlain had not stated what he would use for washing the horse. Personally, he considered the best medium was an alcoholic solution of soft soap, to wet the body of the horse with warm water and then pour on the alcoholic solution, working it well into the skin. That made a splendid lather, and was a much better method than using hard soap. He agreed with Mr. Chamberlain that it was not advisable to put on rugs. He considered it was essential, in civil practice, if a horse was dressed with an oily preparation in the middle of a hard winter, that something warm must be used, otherwise pneumonia would supervene. Instead of using rugs, it was quite easy to use long wheat straw, fastening it on with a straw band; (a split sack over the straw) which would keep the horse warm and avoid all danger of chill.

He quite agreed with Mr. Chamberlain's suggestion that the horse should not be dressed every day. Personally he thought once a week was quite sufficient, if a dependable dressing was used and the animal was properly dressed. He agreed also that sulphur and oil, if they were properly applied and the horse was well washed, and especially if there was good grooming afterwards, formed the best treatment. In his opinion the definite cure of mange was brought about by thorough grooming.

The question of disinfection, which Mr. Chamberlain had not referred to, was as important as any measure in the treatment of mange. A client took a farm where mange had existed for years, and he had not been on it a couple of months before mange broke out. The question arose as to how the harness should be dealt with. He remembered reading once in *The Veterinary Record* that the harness should be boiled under such circumstances, but good harness would be ruined if that was adopted. In the case to which he referred an old outhouse was used for the purpose of disinfecting the harness, every crevice being plastered up. Every Saturday night the harness was taken off the horses and put into the outhouse, in which were four trays of sulphur and little spirit lamps by means of which sulphurous anhydride was developed, and the whole of the trouble was eradicated in six months.

Ringworm was very easily got rid of. Personally he had always found that acetic acid applied with a brush was as good a remedy as anything.

Mr. G. Livesey said he had seen many cases in which sarcoptic mange in the dog had been transmitted to human beings. The owners of the dogs were usually ladies, the disease was transmitted to the fore-arm, the neck, or the shoulder, from the common habit of the dog being with the client in bed. It was very easily cured in the human being by a simple sulphur dressing. Disinfection was one of the most important considerations in the treatment of mange in the dog. Several cases of that kind had come under his notice, but one in particular, in which mange occurred in a house perpetually for about two years. Every dog that lived in the house was affected at some time or other, not due to any want of proper care of and attention to the dogs themselves, but to the fact that infection was conveyed from an old fur rug which lay in front of the dining-room fire, and the dining-room carpet. The rug was eventually destroyed and the carpet was baked, and from that day to the present there had never been another case of mange in the house. That and many similar instances proved that disinfection was absolutely necessary if the disease was to be eradicated from a house.

Ringworm was fairly tractable, but he had not found it such an easy disease to cure as some people thought. It needed constant attention, otherwise it broke out again just when it was thought it had been cured. Then again he thought disinfection was the stumbling block. He remembered a case he reported to the Society of a little kitten that infected fifteen people in different houses, including himself. In that case the spores of the ringworm lay in the body of the hair and caused absolutely no skin lesion. If ringworm spores lay latent in hairs, and those hairs lay about a house, it was impossible to say when they would awaken to activity and cause trouble. Where an infective disease caused by parasites—either vegetable or animal—occurred, it was not enough simply to cure the skin lesion; efforts must

be directed towards eradicating the parasite from the premises. He had found it was a most satisfactory procedure to bake the gear, clothes, and other impediments, and next to that the most satisfactory treatment was to thoroughly soak them with formalin solution. It was impossible in many cases to subject the articles to the fumes of a sulphur torch; many clients who possessed nice silks and satins would not put up with that, but they would all tolerate formalin. He agreed with Mr. Chamberlain that in the treatment of mange they possessed a specified in sulphur. If sulphur was used intelligently, and was properly applied by a person who had experience, he did not think any fear need be entertained that a successsul result would not be forthcoming.

Mr. McINTOSH thought there was no doubt the sarcoptic form of mange was the most troublesome to deal with. In well-fed, well-conditioned and properly groomed animals, housed under favourable conditions the disease was of rare occurrence, but where the opposite conditions prevailed, outbreaks were not infrequent and were usually severe.

The watchful and observant individual—the really intelligent horseowner—who recognises the importance of dealing promptly and energetically with the first recognised symptom of the disease, is much more likely to succeed in eradicating this highly troublesome complaint than the man who closes his eyes to the existence of the malady at the onset, preferring to keep the animal at work and apply partial and intermittent dressings.

The symptoms and severity of the attack depended on the amount of infection and the hold that the disease had gained before measures were taken to combat it. The first symptom is intense itching, which, particularly at night, in warm stables or after exertion, becomes very acute. The animal will rub against fixed objects, bite and scratch the affected spots, and the irritation thus wrought very considerably alters the otherwise simple phenomena. As time goes on the hair falls out or breaks, inflammatory processes become extensive, the skin thickened and creased, and the animal generally becomes a picture of misery.

In treatment, he thought the selection of a dressing—while very important—was of less importance than the manner of its application. The first factor of success in treatment was the personal element, the vigilance of the horse-owner in the first place, and in the second place the thoroughness of the treatment and supervision afterwards.

Personally, on obtaining the slightest indication of the disease he had the animal isolated, clipped, singed and dressed, and everything that had been in contact with the animal properly disinfected.

As a dressing he used in the first place one of paraffin to two of oil, and had the animal practically soaked in it for twelve hours or so, afterwards washing the animal with "mercurial soft soap." If further dressing were required, he had great faith in the old dressing of sulphur, spirit of tar, and rape oil. In conjunction with this treatment he thought saline medicines ought to be administered, and generous and nutritious feeding was imperative.

He had never experienced any great difficulty in dealing with ringworm, although in young cattle it was sometimes troublesome. In horses he generally found the disease yielded to treatment readily. One or two dressings of iodine, or any of the mercurial preparations was, as a rule, sufficient. Disinfection of all equipment in this, as in mange, must be thorough and complete, otherwise recurrences will take place. In the case of harness he has all the padding removed and destroyed, and the leather properly scrubbed with a strong disinfectant. Brushes, clothing, etc., he prefers to destroy.

Mr. HEATLEY mentioned a case in which a good deal of trouble was experienced with 400 horses suffering from ringworm which had been treated by a brother practitioner who applied a mercurial preparation. He applied pure glacial acetic acid with a camel-hair brush, and within three days the trouble was exterminated. He adopted the same treatment in another outbreak, and one application was sufficient to eradicate the trouble.

Mr. BOWHILL enquired how long a time elapsed before the skin resumed its normal condition and the horse could be passed as well.

Mr. HEATLEY said it was possible to certify that the horse was healed in a few days. Of course the hair had not come again, but a cicatrix was formed.

Mr. BOWHILL thought that would not be sufficient evidence that there was no longer any infection. He had treated a considerable number of cases of ringworm, and obtained the best results from chloral hydrate one dram, carbolic acid one dram, tincture of iodine three drams, and 40 minims of 40 per cent. solution of formalin. That applied with a camel-hair brush was very effective. He afterwards used a sulphur ointment with a little tincture of iodine. When the hair subsequently began to grow the veterinary surgeon was in a position to say that the horse was healed.

Mr. ARCHER said his own clinical observation led him to believe that mange as a disease was not transmissible to human beings, although he quite agreed that the parasite was. A parasite set up an irritation and symptoms of mange in the human being, but as far as he knew the parasite did not reproduce its kind on the human being. Unless, therefore, fresh invasions of the parasite were obtained it died the same way that a louse would do. Lice from the cow would get on a human being and cause a considerable amount of irritation, but they did not propagate; and he believed that was exactly the same in the mange parasite of dogs and horses. In the case to which the President had referred, he thought there was probably a repeated invasion of the human being from the cows. He thought it was very advantageous to use rugs after dressing horses suffering from mange or ringworm; they entrapped a certain number of mange parasites if any escaped from the body, and if subsequently the rug was burned the parasites were destroyed. It was very unfair to a horse suffering from the disease that it should receive a dressing and then be exposed to the weather; it was essential that some sort of covering should be used. There was a very considerable mixing up of ideas with regard to the cure and the eradication of ringworm. The two were absolutely different. The fungus of ringworm could easily be killed, but it was quite another matter to destroy the spores. The spores would stand an immense amount of exposure both to heat and cold, and also to chemical agents, without being destroyed. He was quite sure that strong mercurial soap would not kill them, and he did not know positively of any dressing that could be safely applied to extensive surfaces of a horse's skin that would. He admitted a flame would destroy them, but he knew of no dressing that it was safe to place on a horse that would destroy the spores. As a result, horses which were supposed to be cured of ringworm were repeatedly sent to various places, but in less than a fortnight they were smothered again, simply because the spores had not been destroyed. In his opinion, ringworm could not be thoroughly eradicated under a period of something like six months, in the ordinary conditions met with in practice.

Mr. McINTOSH, in reply to Mr. Archer's remarks, said he thought that unless the disease was eradicated the animal was not cured. He had treated several cases of ringworm in which there had been no recurrence. In a case where a recurrence occurred, the animals obviously had not been cured. He was perfectly satisfied

that the spores could be killed if they were dealt with properly, and in his experience mercurial preparations would have that effect.

Mr. J. WILLETT agreed with Mr. Chamberlain that there were many cures for mange, but, personally, he had always pinned his faith on mercurial soft soap, with which he had had great success. He had heard many practitioners say that that treatment caused a great deal of trouble through exfoliation of the hair, but in his opinion that was due to the mode of application. He had seen men put a dab of soap on the skin, and then start rubbing the part with the brush until a good lather formed. As a result, a blister was raised on that particular spot, and a large surface was denuded of hair. The proper treatment consisted in having the horse thoroughly soaked over with warm water, and then putting the soap on the brush itself instead of on the hair, a lather being formed in that way. He was rather surprised that Mr. Chamberlain did not mention that when the horses were clipped that operation should be carried out in a stable or a shed so that the wind did not blow the hair about all over the place, causing areas of infection. He also adopted the procedure, after the animal was clipped, of having it singed at least twice a week for a fortnight, and with that treatment he had experienced little trouble with the disease. He did not agree with Mr. Archer's remarks as to the use of mercurial soap in ringworm, as in his opinion it killed the complaint.

Mr. SIDNEY VILLAR said it occurred to him that the reason for the somewhat divergent views which had been expressed was that different forms of ringworm had been under consideration of different speakers, although he did not suggest for a moment that there was more than one form of vegetable parasite concerned. Ringworm in the last year or two had been very prevalent, and had assumed other forms than the usual one. The usual form consisted of rings of the size from a shilling to a florin, as Mr. Chamberlain had said, but in recent years he had seen two others, in one of which there was a number of small spots, perhaps the size of a threepenny piece, which, when examined under the microscope, were found to be ringworm. Another form was of a more diffused nature; it spread practically all over the horse, and it was usually said that the horse was suffering from mange, due to the fact that on scratching the animal it gave a movement of the lips which a horse suffering from parasitic mange gave, but there was nothing like the intense irritation and itching which was found in mange. All over the body in big patches, and in some cases, right up the inside of both thighs and on the prepuce, instead of getting the parasite of mange the ringworm fungus was found. He did not think it was possible to tell which was ringworm and which was mange in those diffused cases, except by the use of the microscope. That was the only method of differential diagnosis. In the scattered spots he had found the old dressing used for calves—Perchloride of mercury, 12 grains to the ounce, applied twice with the finger, an infallible remedy. It was necessary also to apply the ointment for a very short distance round the circumference of the bare spot. That ointment needed no preliminary treatment except that the horse should be washed. He never heard of a case of infection from a man applying it with the finger. In the diffused cases, it was utterly impossible to think of dressing a horse all over with a solution of Perchloride of mercury strong enough to kill the fungus of the ringworm.

Paraffin was used, not so strong as that mentioned by Mr. McIntosh, of one to two parts of oil, but one to ten parts of oil. It was applied three times in the course of a week; then the animal was washed, and it was almost invariably cured after one week's treatment. Of course spots might subsequently appear, which were then treated with Perchloride of mercury. There could be no doubt that there was a good deal of mixing up of diffused ringworm and parasitic mange. In the treatment of mange he swore by sulphur if properly applied, which was the secret of an absolute cure.

He desired most particularly to emphasise the necessity of not treating animals with what were usually known as disinfecting fluids. He would not mention the names of any preparations, but he had found that the application by grooms, attendants, and horse owners of disinfecting fluids had produced greater trouble than the mange or ringworm itself. Not only that, but in many cases it absolutely prevented the cure of the diseases, because the irritation and dermatitis that was produced, and the desquamation which followed, were the very conditions under which animal and vegetable parasites flourished.

He supported Mr. McIntosh's statement with regard to the necessity of generous feeding when horses were affected with skin diseases. It was a very general idea among country people that corn should be stopped and the patient given a dose of aloes. That was absolutely wrong. The horses should be given plenty of corn and linseed cake, or anything to soften the skin. Sulphur used internally was of very great benefit in mange. But whatever the treatment adopted, the great thing was to be thorough, and to give the case personal attention, otherwise a speedy cure would not be obtained.

Mr. W. PERRYMAN thought the essential principle in the treatment of mange was thoroughness. It did not much matter what dressing was applied so long as it was applied thoroughly to all parts. He desired to know whether Mr. Chamberlain advocated that the whole of the body should be dressed from head to foot. Also, did Mr. Chamberlain advocate the clipping of the mane and tail, because a good deal of mange sometimes existed in those parts. He believed a great deal of mange was retained in stables in the vicinity of the legs. With sarcoptic mange it was possible, especially in the region of the hock, to have live patches, and unless the animal were dressed from head to foot with some dressing the desired effect was not obtained. Personally, he always clipped the legs as well as the mane. He had also come to the conclusion that the parasites of mange would live in harness for a much longer period than Mr. Chamberlain had mentioned. He thought it was essential that all harness should be disinfected, and that before harness was sent to the ordinary harness-maker for repair the lining should be cut out, otherwise there was a possibility of the old lining being used again and infection being spread. He always suggested that the whole of the harness should be thoroughly washed in Carbolic, and that it should then receive an application of ordinary Rape oil and paraffin.

He disagreed with what Mr. Chamberlain said about the clothing. In the average stable it was essential that, after an animal had been clipped, especially during the present kind of weather, some form of clothing should be given to it. He always suggested that old sacks or, better still, hop pockets should be used, which could be burned or thrown into disinfectant after the dressing had been applied. It was a cheap method, and it materially assisted the growth of new hair, and certainly obviated the danger of chills, kept the animal warm and helped him to recover from the disease. He agreed with the statement made that the animals could not be fed too liberally. The whole of the success in treating animals with mange depended upon being thorough and giving personal attention to the work. He used, as a dressing, ordinary oil and sulphur, and a preparation of tar. Continuous dressing was, he thought, wrong. He tried to get two dressings, and then a wash; then to leave it for a week, and apply another dressing all over. Constant dressing was detrimental to the animal, because the whole of the skin got clogged up and the animal was prostrated. He thought it was a good

plan, especially in bad cases, to give a dressing all over on the Saturday, and to give the horse a wash on the Sunday or Monday, after he went to work again. It was impossible to say that all the parasites or the eggs had been hatched out and killed, and for that reason it was advisable in many cases to give an extra dressing, although apparently the case was cured.

Mr. McINTOSH enquired whether Mr. Villar had ever used paraffin in a larger proportion than 1 in 10.

Mr. VILLAR replied that he had used it 1 in 4, and as a result the animals were blistered.

Mr. McINTOSH said he had used it 1 in 2, and although it had been applied all over the animal he had never yet seen a blister.

Mr. VILLAR thought that possibly the class of horse might have something to do with that. He presumed the horses in question were thick-skinned cart horses.

Mr. McINTOSH said that the horses he had to deal with were nearly all Scotch horses, and they, like the people of Scotland, were rather thin in the skin.

Mr. PERRYMAN mentioned an unique experience he had a few years ago in connection with a man who dressed three horses all over with gas water. When he saw them, two of the horses were in a very prostrate condition, passing copious quantities of blood—hæmorrhage from the kidneys—and one of them died. The use of the gas water had a very drastic effect, the most notable symptoms being hæmorrhage from the kidneys and great prostration.

Mr. ARCHER, in reply to Mr. McIntosh's remarks, said that when he (Mr. Archer) spoke about the eradication of ringworm he meant the eradication of an outbreak of the disease and not the eradication of the fungus itself. When an outbreak of ringworm occurred, by the time the veterinary surgeon was called in to treat it numerous spores had been spread about, not only on the animals but on the buildings. That was what he referred to when he said it was so difficult to eradicate the disease. He did not mean to say that when a veterinary surgeon was called in in private practice to treat a case he could not cure it. It was quite easy to cure an isolated case, but the eradication of a well-established outbreak where the spores had been already spread broadcast over the animal and its surroundings was quite another matter.

Mr. F. W. CHAMBERLAIN, in reply to the President's remarks, said that in the case of mange he was in the habit of washing the animals merely with soft soap prior to dressing. In the case of ringworm, as he dressed only the local lesions but did not dress the animals all over with the ringworm dressing, he always made it a rule to wash them with an emulsion containing not merely paraffin and oil, but soft soap one pound, boiled down to a solution in a gallon of water, adding a quart of kerosene and a quart of linseed oil. The emulsification obviates the blistering effect of the paraffin. He had always known that as Blenkinsop's Emulsion. He did not wish the President to imagine that he by any means under-estimated the value of disinfection, both as regarded tools, rugs, and stabling. The President seemed to rely principally on fumigation for the disinfection of saddlery. His own practice was identical with that of Mr. Perryman, namely, to rip open the saddle and pull out the flock, lining and stuffing, to make sure that it would be renewed and re-lined. In the case of military saddles, which were not lined in the ordinary way, but were bare, he placed reliance on scrubbing with a strong solution of coal tar preparation. Mr. Livesey had touched upon the question of ringworm in the cat. Personally he was invariably emphatic in counselling the destruction of cats with ringworm. He had no objection to rugs being employed in isolated cases of mange, but he never put the rug next to the skin. He generally placed a sheet under the rug, which permitted of its being boiled afterwards. His objection to rugs applied at the present time when there were so many horses that had to be attended to, and so many new hands recently recruited to help in the stables who did not know anything about horses. He found such people grossly negligent in regard to the use of rugs. He had stated in his Paper that if rugs were not used it was absolutely a *sine qua non* that the animal should be warmly stabled. It would be criminal to treat animals with sulphur and oil and then turn them out in the intensely cold open air. He recently received a letter from a friend in France who told him that a good deal of trouble was being experienced in that way abroad. The same treatment was now being adopted as that used for the men, namely, to apply chloride of lime. An extensive trial was being given to the application of powdered chloride of lime on the skin on the ground that cold was avoided in that manner. He thought Mr. Archer hit the nail on the head in saying that the trouble in ringworm was in dealing with the spores. He agreed with Mr. Willett that the horses should be clipped in one stall. He always had a stall set apart for that purpose. Mr. Perryman asked if he was in the habit of clipping the mane and tail. He always had the mane "hogged" if possible, but he never disfigured the animal by clipping the tail close. The next best thing was to make transverse clippings with scissors so that the dressing could be worked in. The mane and tail were always difficult parts. The opinions that he had given in his opening contribution with regard to the vitality of the parasite were not his own, but the views expressed by Gerlach and Neumann. Old harness was a fine habitat for the parasite. How long it would live there he was not prepared to say, although Mr. Perryman seemed to be under the impression that the parasite would live for a long time off the host in such a thing as an old pad which contained a lot of sebaceous secretion.

On the motion of Mr. J. WILLETT, seconded by Mr. McINTOSH, a hearty vote of thanks was accorded to Mr. Chamberlain for his kindness in opening the discussion, and the meeting terminated.

HUGH A. MACCORMACK, Hon. Secretary.

GLASGOW VETERINARY COLLEGE.

The annual distribution of medals and certificates won by the students of the Glasgow Veterinary College (Incorporated) took place in the Lecture Hall of the College at Buccleuch Street on Wednesday, 8th inst. Sir Hugh Shaw Stewart, Bart., Chairman of the Governors, presided.

The Chairman, referring to the war, said it was interesting to note that the Roll of Honour of the College included 77 qualified veterinary surgeons, 17 students, and two lecturers. The loss caused by the death of Principal McCall, he went on to state, was felt not only in that College, but also throughout the whole veterinary profession in the west of Scotland, and indeed over a wider area. As to the financial position of the College, he pointed out that if they had larger funds at their disposal they could do a great deal more in the way of research. While it seemed an odd time to ask for money, yet the business of the College was to help to conserve the food of the nation, and if they had more money they should be able to undertake further investigations into those scourges of our sheep flocks, namely, braxy and louping-ill, and thus be able to diminish the great waste of sheep life which was going on over a large part of the west of Scotland. Mr. Peter Reid, who was an enthusiast in this matter, proposed to bring up the question at an early meeting of the Governors with a view to getting the Government to assist them to put a stop to this waste of sheep life. (Applause.)

Prize List.

The medals granted by the Highland and Agricultural Society, the late Principal McCall, and the late Prof. Allen Thomson, and Certificates of Merit were awarded as follows :—

Chemistry. Medallist and 1st class certificate : J. H. Motion ; 1st class certificate : T. H. Miche ; 2nd class certificate : Wm. G. Jones.

Junior Anatomy. Medallist and 1st class certificate : T. H. Michie ; 1st class certificates : J. H. Motion and J. Turner ; 2nd class certificates : R. Scoular and Wm. G. Jones.

Biology. Medallist and 1st class certificate : J. H. Motion ; 1st class certificates : T. H. Michie and B. Sayer ; 2nd class certificate : Wm. G. Jones.

Senior Anatomy. Medallist and 1st class certificate : R. R. Moodie ; 1st class certificates : G. L. Bradley and D. G. Wishart ; 2nd class certificate : G. Corson.

Stable Management. Medallist and 1st class certificate : D. G. Wishart.

Physiology and Histology. Medallist and 1st class certificate : D. G. Wishart ; 1st class certificate : G. L. Bradley ; 2nd class certificate : G. R. Moodie.

Pathology and Bacteriology. Medallist and 1st class certificate : J. S. Keane ; 1st class certificate : A. L. Robertson ; 2nd class certificate : C. M'Pherson.

Materia Medica and Therapeutics. Medallist and 1st class certificate : J. S. Keane ; 1st class certificate : A. L. Robertson ; 2nd class certificate : C. M'Pherson.

Hygiene and Dietetics. Medallist and 1st class certificate : J. S. Keane ; 1st class certificate : A. L. Robertson : 2nd class certificate : C. M'Pherson.

Allen Thomson Gold Medal for the best Professional Examination on Anatomy : D. G. Wishart.

Dick College and H. & A. S.

At a meeting of the directors of the Highland and Agricultural Society held on Wednesday, 1st inst., in the Society's Rooms, George IV. Bridge, Edinburgh, a letter was read from Professor Rankine, chairman of the Board of Management of the Royal (Dick) Veterinary College, making an appeal for a further grant from the Society. The war has given rise to formidable difficulties, which has caused serious embarrassment. The subscription list was brought to a standstill when war was declared, and contracts now materially exceeded in amount the probable cost as originally estimated. The Board would be grateful if the Society would make an addition to the grant of £400 already contributed to the building fund, and would bring to the notice of agriculturists and stock breeders the urgent needs of the College.

A letter was read from Mr. Price, M.P., who expressed the hope that the appeal would meet with a substantial response, as the financial condition of the College was in a perilous state. So far, with the honourable exception of Lord Rosebery, no single landed proprietor, stock breeder, or farmer had contributed to this scheme, which seemed scarcely fair, as the subject should appeal to them more readily than to any other class in the community.

Mr. M'Hutchen Dobbie took exception to the statement in the letter.

The matter was remitted to the Finance Committee for consideration and report at next meeting.—*The North British Agriculturist.*

Prosecution : Coal Mines Act, 1911.

Wilfrid H. Heppell, agent of the Cwmaman Coal Co., and Wm. Jones, manager, were summoned by the Home Office for a breach of the Coal Mines Act, 1911, viz., neglecting to provide continuous and thorough ventilation, by intake air, in the underground stable, and for not keeping the stable in a sanitary condition. Mr. T. R. Davies, H.M. Inspector of Mines, prosecuted, and Mr. A. Prosser (Messrs. C. and W. Kenshole and Prosser), defended.

Mr. Davis said that the stable in question was the Red Coal Stable. There was no complaint against the condition of the horses at the colliery. The stable was very hot when visited by the inspector, and was swarming with flies and beetles, and it was absolutely impossible for the horses to get proper rest. The quantity of air was absolutely inadequate for the proper comfort of horses. There was an airway in, but no way out. The attention of the management was called to the place in February, 1913. On January 6th, this year, their attention was once more called to the insanitary condition of the place. Another visit was paid to the stable in September, and a letter was sent by Mr. Atkinson, H.M.I., to the Company, and Mr. Heppell replied that they were withdrawing the horses from the stable in question. When an inspector called at the colliery on October 15 last, it was found that the promise had not been kept, and that the stable was still being used.

Thomas Lloyd Evans, H.M. Inspector of Horses for the South Wales Division, bore out Mr. Davies' statement, and added that the state of the stable was very bad, owing to the high temperature. The best remedy for getting rid of the beetles was a good supply of fresh intake air.

Witness was cross-examined by Mr. Prosser, who quoted Mr. Wm. Jenkins, Ocean Coal Co., as stating before a Royal Commission that colliers could work comfortably in stalls where the temperature was 80 degrees. The temperature in the stable was 78½.

Mr. Prosser : Do you say that horses require a different standard of temperature from that of man?

Stipendiary : I do.

Evan Philip Evans, M.R.C.V.S., Consulting Veterinary Surgeon to the Home Office and the Bedwas Navigation Colliery Co., said there was a mass of flies there—hundreds of thousands of them. The chaff and corn in the mangers were black with beetles, and there was a mass of beetles crawling about in every direction, and they were thick on the walls.

Stipendiary (to Mr. Prosser): You must be enjoying this. (Laughter.)

Witness added that he had never seen a place like it during his 25 years' experience.

Cross-examined by Mr. Prosser, witness agreed that the condition of the horses was good.

Mr. Prosser : Were they eating the beetles?

Witness : I don't think they could avoid eating some.

Mr. Prosser : The beetles must be agreeing with the horses. (Laughter.)

For the defence Wilfred H. Heppell was called. He said that this particular stable was 1,500 yards from the pit bottom. Fifteen horses had been stabled there for some time, but nine latterly. At the end of September last it was decided to abandon the Red Coal district, and he gave instruction to remove the horses to other stables. When he went with the inspectors on Oct. 15th to the stable in question he was under the impression that the horses had been removed, but three remained there. Wm. Jones, manager of the colliery, gave further evidence, and said that the flies were not a source of annoyance to the horses. Lewis Thomas, day overman at the Red Coal District, said he received

instructions from Mr. Heppell and Mr. Jones to remove all the horses from the Red Coal Stable. He removed six the following day to various other stables, and left three in the old stable. The Under-Manager said that those three would be required to take material from the Red Coral District, which was then being abandoned.

Mr. Prosser then addressed the Bench, and contended that a temperature of 78½ degrees was not too high.

The Stipendiary said that the Bench had no hesitation in saying that a very serious offence had been committed. The defendants had no excuse whatever, because they had had sufficient warning, and all the warnings had been disregared, with the result that on the 15th Oct. the stable was still pestered with masses of flies. It was absurd to say that the horses did not suffer in consequence. One would have to enter into the skins of those horses to know how much they had really suffered. Each of the defendants would have to pay a fine of £10. Mr. L. N. Williams and Mr. F. W. Mander, who are directors of colliery companies, did not adjudicate in the case.—*The Aberdare Leader.*

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

The following passed his Final Examination:

Mr. G. S. Walker

EXAMINATIONS IN EDINBURGH.

The following passed their Final Examination:

Mr. B. Philp
D. M. Ireland
Mr. J. B. Mackie
T. D. M. Martin

The following passed their Third Examination:

Mr. R. Beattie
E. C. Nelson
J. Robertson
Mr. T. A. Shaw
N. Bissett

The following passed his Second Examination:

Mr. J. K. Irvine

The following passed their First Examination:

Mr. D. Buchanan
Mr. A. B. Hendry

EXAMINATIONS IN LIVERPOOL.

The following passed their Final Examination:

Mr. S. T. Jackson
E. J. B. Sewell
Mr. B. Whittam

The following passed their Third Examination:

Mr. W. A. Berry
E. W. Hughes
Mr. C. Wadsworth

The following passed his Second Examination:

Mr. H. V. Hughes

The following passed their First Examination:

Mr. H. R. Hewetson
Mr. A. E. Proctor

von Hindenburg and Veterinary Surgeons.

In September last General von Hindenburg addressed a circular-letter to the Commanders of his Armies, in which he called attention to the considerable diminution of the epizootics (glanders and infectious pneumonia) which had appeared amongst the horses, and which, in the Spring, had assumed impressing gravity. He attributes this diminution to the assiduous and intelligent work of the veterinary corps, which has been able to apply prophylactic measures in extremely difficult conditions. With words of enconium and gratitude, Hindenburg passes a warm eulogy upon the Army veterinary surgeons, who have performed irreproachable work at the Front in the equine hospitals, the laboratories, and the slaughter-houses, contributing laudably to the preservation of the horses of the Army. Given the value and the sacrificing spirit of the veterinary corps, Hindenburg is certain that the conditions will be well maintained in the future, notwithstanding the advance into infected territory, and notwithstanding the severe fatigue and the inevitable deficiency in alimentation to which the horses will be subjected.—(*La Clinica Veterinaria.*) W. R. C.

Medicine made easy.

The Farmers' Gazette, Dublin, gives the following reply from a Wexford correspondent, with the comment "which we reproduce as a matter of general interest to our readers."

COMMON SALT FOR STOCK AILMENTS.

"For calves of three months old I would give a good fistful dry, and wash down with half-a-pint of warm water, and let him go about as usual, but keep him from bad water; any quantity of good water will not do harm. For a two-year-old you could give one pint dry, and treat in the same way as the calves. I have cured calves and two-year-olds just as stated, when I thought it would be impossible to effect a cure with any medicine. I may also mention that I give plenty of salt to every class of animal in the place, and have not had a case of disease since I commenced doing it. Fattening cattle do remarkably with half a fistful on each meal.

I remember well when a boy we had twenty three-year-olds fattening, and they got some disease. When vets. failed, my father commenced with the salt; he used to give one pint dry three times each day, with a large bucket of spring water, and after six days they began to eat a little, and were quite recovered in twenty-one days. Any further information required I will be pleased to give on the matter."

Scutellaria in Medicine.

Dr. William Bramwell, Liverpool, writes to the *British Medical Journal*:—

"In view of the correspondence on bromides in epilepsy it would, perhaps, be worth while to introduce to the notice of the profession the simple herb scullcap, or *Scutellaria lateriflora*, in the treatment of this disease. In many cases a simple infusion or extract in correspondingly suitable doses will lessen the severity of the fits and reduce their number equally with bromides and without any of the disadvantages of the latter. Its efficacy appears to be partly due to its stimulating the kidneys to increased activity not only in increasing the flow of water but also the output of urea and uric acid as shown by the increased specific gravity of the urine, the retention of such toxins as a cause of many cases of epilepsy being too frequently overlooked. The medicinal qualities of this simple remedy are even more marked in chorea than in epilepsy, and it is to be hoped that a similar investigation and a similar therapeutic distinction awaits scullcap as happened in the case of comfrey, the invaluable qualities of which were limited to the use of the herbalist and consequently despised by the profession until Dr. C. J. Macalister, wisely setting aside prejudice, determined to investigate it, and having discovered its cell proliferating properties proved it beyond question one of the most valuable of remedies."

ARMY VETERINARY SERVICE

WAR OFFICE, LONDON, S.W.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Dec. 16.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieut. to be temp. Capt. :—R. Clunas (Dec. 7).

Dec. 18.

Temp. Lieut. to be temp. Capt. :—F. K. Henton (Aug. 11).
To be temp. Lieut. :—R J. Bushnell (Dec. 1).

Dec. 20.

To be temp. Lieut. :—F. T. Smyth (Dec. 6).

Dec. 21.

Capts. to be temp. Majors:—W. J. Dale, W. H. Simpson (Dec. 22).
Temp. Lieut. to be temp. Capts. :—P. J. Austin (Dec. 11).
To be temp. Lieuts. :—H. Quiggin (Dec. 9); W. S. Walker (Dec. 11).

Dec. 22.

Temp. Capt. to be temp. Major :—J. W. F. Brittlebank (Dec. 23).
To be temp. Lieuts. :—A. J. S. Reynolds, P. Haugh, (Dec. 12).

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Dec. 18.

To be Lieut :—H. W. Dawes (Dec. 19).

MEMORANDA.

Lieuts. of the Army Vet. Corps, S.R., to be temp. Capts. whilst serving in E. Africa :—W. W. Henderson, R. C. Wheeler (Sept. 1, 1914).

To be temp. Capt., while serving in E. Africa : A. S. Leese (from Sept. 28, 1914, to Dec. 5, 1914).

The following casualty in the Indian Forces, Mediterranean Expeditionary Force, is reported :—

WOUNDED—Dhan Bahadur, Assist. Veterinary Officer, Baharatpur Transport Corps.

Personal.

STOW—CROUCHER. On the 9th Dec., at St. Mary's, Leigh, Tonbridge, by the Rev. F. O. Walton, Lieut. R. J. Stow, A.V.C., youngest son of the late William Stow and Mrs. Wm. Stow, of Hadlow, to Eva Croucher, youngest daughter of Mr. and Mrs. Edward Croucher, Great Hayesden, Tonbridge.

OBITUARY

JOHN AITKEN, M.R.C.V.S., Dalkeith.
Graduated, Edin. : April, 1841.

Mr. Aitken passed away on Saturday, 18th inst., in his 96th year. He was a native of Easter Duddingston, and succeeded his father in practice 74 years ago ; he removed to Dalkeith in 1846.

His qualification bears the earliest date in the current issue of the annual Register R.C.V.S. The position of doyen of the profession now falls to Mr. W. Emms, of Ilminster, Somerset, whose diploma dates from May, 1846.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS

Period.		Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
		Out-breaks (a)	Ani-mals.	Out-breaks (a)	Ani-mals.	Out-breaks (b)	Ani-mals.	Out-breaks (b)	Ani-mals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended December 18		10	10		1	2	2	38	100	22	61	225
Corresponding week in	1914 ...	18	20	3	42	1	5	‡	‡	15	77	361
	1913 ...	15	15	1	50	5	9	47	79	26	59	1127
	1912 ...	7	10			1	1	80	183	16	45	704
Total for 51 weeks, 1915		566	633	56	693	50	87	‖873	‖1894	238	3913	16454
Corresponding period in	1914 ...	710	775	27	166	97	286	‡1530	‡2642	218	4298	39078
	1913 ...	575	629	2	73	155	398	2334	4558	223	2520	31687
	1912 ...	729	826	83	645	171	310	2828	5965	294	2888	39220

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked : London 1, Stafford 1

Board of Agriculture and Fisheries, Dec. 21, 1915. ‖ Figures for thirty-eight weeks only.

IRELAND. Week ended Dec. 18	...	...	...	...	...	...	Outbreaks 2	11	1	2
Corresponding Week in 1914 ...	...	...	...	...	...	...	...	11	2	15
1913 ...	...	...	...	...	...	...	1	24	1	17
1912 ...	...	...	...	...	...	...	2	12	1	12
Total for 51 weeks, 1915 ...	2	2	...	...	1	3	70	409	244	1351
Corresponding period in 1914 ...	1	1	76	957	...	...	76	478	192	966
1913 ...	...	...	...	...	1	1	113	535	133	893
1912 ...	3	3	68	382	...	...	66	370	212	1590

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 20, 1915

NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection.

The purchase of Army Mules in U.S.A.

The following notes are taken from an article by 'Hotspur' in *The Daily Telegraph*, and is given here as complementary to his remarks on the horse supply in last week's issue.

"It has been stated officially that the Government have had to spend £12,000,000 in America on horses and mules to meet the vast requirements of our armies abroad. This figure history may show to be under rather than over the mark.

Since mule-breeding is not carried on in the United Kingdom, this indispensable beast of transport had to be purchased abroad; but much money expended in America would have been saved to this country had the horse supply been in a less unsatisfactory state than it was at the time the officers of the Remount Department of the War Office had to secure animals for war service. From one firm in the United States the British Remount Commission, under Major-Gen. Sir Frederick Benson, purchased 120,000 mules and 60,000 horses.

Reference is made to the Guyton and Harrington Mule Company Properties, the head-quarters of which are at Kansas City, Mr. J. D. Guyton being president, Mr. W. R. Harrington vice-president, Mr. J. F. Guyton treasurer, and Mr. W. K. Harrington secretary. The company have 500 buyers in the field, and thus it covers practically every State in the Union. Kansas City ranks second as a railroad centre in the United States, having thirty-two distinct railroad lines, while it is famous as a hay market (the most important in the States), for agricultural implements, live stock, meat packing, and grain.

The proprietors claim that it is possible to stable and feed daily 102,000 head of horses and mules. In 1914, which year was normal and ante-dating the extra demand caused by the war, 89,552 horses and mules were handled at the Kansas City Station. An additional 40,000 were handled at the company's other stations, making a total in round numbers of 130,000. The horse supply of 1914, according to the United States Government report on Jan. 1st, 1915, was 21,195,000 and the mule supply 4,479,000. The estimated horse supply for 1915 was 23,000,000, the estimated mule supply being 5,500,000. During the Boer War the Guyton and Harrington Company sold the British Government 55,023 horses. That was in 1901-2, and during the same period it sold to its regular trade 56,385 head of stock.

Some details may be given of the procedure after they have been accepted at Kansas City by the British Remount Commission. First, they are shipped to the great feeding stations and depôt at Calthorp, Missouri, about forty miles distant. There are facilities at this station for handling 250,000 head, and now the British Government is in direct charge of the station. At East St Louis, Illinois, on the road to the point of embarkation, another great sales and feeding depot is maintained, and one more night's trip brings the shipment to Nashville and Columbia, where there are two feeding stations. The last part of the journey is to the ports of embarkation, whence the purchased animals are shipped. It is claimed that the Guyton and Harrington chain of feeding stations is so perfect that it is not necessary for an animal purchased by the British Government to leave any of its properties from the time it is bought at any of the sales' stables until it reaches the port of embarkation.

Some day it will be possible to tell how shrewd calculation and much forethought on the part of the chief of British Remount Commission in America enabled our Government to deal on such an extraordinary big scale in horseflesh, and how the vast purchases were shipped to Europe and other theatres of war. The Guyton and Harrington Company may well be proud of their achievement.

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19 Bank Street, Hillhead, Glasgow
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88 Crookston Street, Glasgow
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